

REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the pending application. The Office Action dated February 22, 2006 has been received and its contents carefully reviewed.

Claims 1 and 32 are hereby amended. No new matter is added. Claims 1-50 are pending. Claims 20-31 are withdrawn from consideration. Accordingly, claims 1-19 and 32-50 are currently examined. Reexamination and reconsideration of the examined claims are respectfully requested.

In the Office Action, claims 1-19 and 32-50 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,517,342 to Kim et al. (hereinafter "Kim") in view of U.S. Patent No. 6,770,908 to Sato (hereinafter "Sato").

The rejection of claims 1-19 and 32-50 as being unpatentable over Kim in view of Sato is respectfully traversed and reconsideration is requested.

Claim 1 is allowable over Kim in view of Sato in that claim 1 recites a combination of elements including, for example, "each of the gate lines having at least one first set of protrusions and depressions extending in a direction substantially perpendicular to a surface of the substrate on which the gate lines are arranged" and "a metal layer overlapping each of the gate lines to create a storage capacitor, the metal layer having at least one set of protrusions and depressions extending in a direction substantially perpendicular to a surface of the substrate on which the metal layer is arranged." None of the cited references, singly or in combination, teaches or suggests at least these features of the claimed invention. The Examiner admits on page 3 of the last Office Action that Kim does not disclose a metal layer overlapping each of the gate lines to create a storage capacitor.

Applicants respectfully submit that Sato fails to cure these deficiencies of Kim. The device of present claim 1 is different from the modified device of Kim in view of Sato in that "the metal layer" has "at least one set of protrusions and depressions extending in a direction substantially perpendicular to a surface of the substrate on which the metal layer is arranged." In

contrast, Sato merely teaches that storage capacitors are added in parallel with liquid crystal capacitors. See column 11, lines 38-42 and Figure 1. That is, Sato is silent with respect to “the metal layer” having “protrusions and depressions.” Furthermore, the device of present claim 1 is different from the modified device of Kim in view of Sato in that “each of the gate lines” has “at least one first set of protrusions and depressions extending in a direction substantially perpendicular to a surface of the substrate on which the gate lines are arranged.” Sato is silent with respect to the “gate lines” having “protrusions and depressions.”

In addition, Applicants respectfully submit there is no motivation for one of ordinary skill in the art to combine the cited references and arrive at the claimed invention with any reasonable expectation of success. As stated, Sato is completely silent with regard to “gate lines having at least one first set of protrusions and depressions.” Applicants further submit that the motivation to combine the references comes from the present invention and not from the cited references, which is impermissible. Accordingly, Applicants respectfully submit claim 1 and claims 2-19, which depend therefrom, are allowable over the cited references.

Claim 32 is allowable over Kim in view of Sato in that claim 32 recites a combination of elements including, for example, “forming a plurality of gate lines...each of the gate lines having at least one first set of protrusions and depressions extending in a direction substantially perpendicular to a surface of the substrate on which the gate lines are arranged” and “forming a metal layer overlapping each of the gate lines to create a storage capacitor, the metal layer having at least one set of protrusions and depressions extending in a direction substantially perpendicular to a surface of the substrate on which the metal layer is arranged.” None of the cited references, singly or in combination, teaches or suggests at least these features of the claimed invention. The Examiner admits on page 3 of the last Office Action that Kim does not disclose a metal layer overlapping each of the gate lines to create a storage capacitor.

Applicants respectfully submit that Sato fails to cure these deficiencies of Kim. The method of present claim 32 is different from the modified method of Kim in view of Sato in that “the metal layer” has “at least one set of protrusions and depressions extending in a direction substantially perpendicular to a surface of the substrate on which the metal layer is arranged.” In contrast, Sato merely teaches that storage capacitors are added in parallel with liquid crystal

capacitors. See column 11, lines 38-42 and Figure 1. That is, Sato is silent with respect to “the metal layer” having “protrusions and depressions.” Furthermore, the method of present claim 32 is different from the modified method of Kim in view of Sato in that “each of the gate lines” has “at least one first set of protrusions and depressions extending in a direction substantially perpendicular to a surface of the substrate on which the gate lines are arranged.” Sato is silent with respect to the “gate lines” having “protrusions and depressions.”

In addition, Applicants respectfully submit there is no motivation for one of ordinary skill in the art to combine the cited references and arrive at the claimed invention with any reasonable expectation of success. As stated, Sato is completely silent with regard to “gate lines having at least one first set of protrusions and depressions.” Applicants further submit that the motivation to combine the references comes from the present invention and not from the cited references, which is impermissible. Accordingly, Applicants respectfully submit claim 32 and claims 33-50, which depend therefrom, are allowable over the cited references.

Applicants believe the foregoing amendments and remarks place the application in condition for allowance and early, favorable action is respectfully solicited.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at (202) 496-7500 to discuss the steps necessary for placing the application in condition for allowance. All correspondence should continue to be sent to the below-listed address.

Application No.: 10/603,931
Amendment dated May 22, 2006
Reply to Office Action dated February 22, 2006

Docket No.: 8734.209.00-US

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. A duplicate copy of this sheet is enclosed.

Dated: May 22, 2006

Respectfully submitted,

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